

Claims

1. An organic electroluminescent device comprising:
an emitting layer between a pair of electrodes that are an anode and a cathode, and
a suppressing layer arranged between an electrode and the emitting layer, the suppressing layer regulating the amount of electrons or holes supplied to the emitting layer.
2. The organic electroluminescent device according to claim 1, wherein an electron injecting layer and an electron-injection-suppressing layer that suppresses electron injection are arranged between the cathode and the emitting layer, and the electron mobility of the electron-injection-suppressing layer is smaller than the electron mobility of the electron injecting layer.
3. The organic electroluminescent device according to claim 2, wherein the affinity level (Af1) of the emitting layer, the affinity level (Af2) of the electron-injection-suppressing layer and the affinity level (Af3) of the electron injecting layer satisfy the following relationship,
$$Af1 < Af2, Af3 \leq Af2.$$
4. The organic electroluminescent device according to claim 2 or 3, wherein the electron injecting layer comprises a nitrogen-containing cyclic compound, a silicon-containing cyclic compound or a boron-containing compound.
5. The organic electroluminescent device according to claim

2 or 3, wherein the electron injecting layer comprises a nitrogen-containing cyclic compound.

6. The organic electroluminescent device according to claim 2 or 3, wherein the electron-injection-suppressing layer comprises a nitrogen-containing cyclic compound.

7. The organic electroluminescent device according to claim 1, wherein a hole injecting layer and a hole-injection-suppressing layer are arranged between the anode and the emitting layer, and the hole mobility of the hole-injection-suppressing layer is smaller than the hole mobility of the hole injecting layer.

8. The organic electroluminescent device according to any one of claims 1 to 3 and 7, wherein the emitting layer emits blue light.

9. A display that comprises a screen comprising the organic electroluminescent device of any one of claims 1 to 3 and 7